National Institute of Environmental Health Sciences

Difference of intensity and disparity in impact of climate on several vascular diseases

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Year: 2012
Journal: Heart and Vessels. 27 (1): 9-Jan

Abstract:

Several studies have reported the correlation between regional weather patterns and various vascular diseases. However, each vascular disease has inherent characteristics, and the difference of meteorological correlation between these diseases is not well known. This study was aimed at investigating the disparity and intensity of the relationship between meteorological factors and various vascular diseases. A total of 1113 events within 2 years were included in this study. Daily meteorological parameters with and without events were, respectively, compared in acute coronary syndrome (ACS), cerebral infarction (CI), cerebral embolism (CE), cerebral hemorrhage (CH), subarachnoid hemorrhage (SAH), aortic dissection (AD), and aortic aneurysm rupture (AAR). Days with CI onset correlated with fewer sunshine hours, fewer solar radiation factors, greater amounts of precipitation factors, and more humidity factors, whereas CH and CE only showed lower correlation in temperature factors. However, there was no relation seen between ACS, SAH, AD, AAR, and climatic parameters. Our findings suggest that climate affects various cardiovascular and cerebrovascular diseases differently. This finding may help in understanding the mechanism of how vascular events are triggered.

Source: http://dx.doi.org/10.1007/s00380-011-0206-5

Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Meteorological Factors, Meteorological Factors, Precipitation, Solar Radiation, Solar Radiation, Temperature

Temperature: Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Country

Other Asian Country: Japan

Health Impact:

specification of health effect or disease related to climate change exposure

Cardiovascular Effect

Cardiovascular Effect: Stroke, Other Cardiovascular Effect

Cardiovascular Disease (other): aortic dissection ;aortic aneurysm rupture;Acute coronary syndrome cerebral infarction

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified